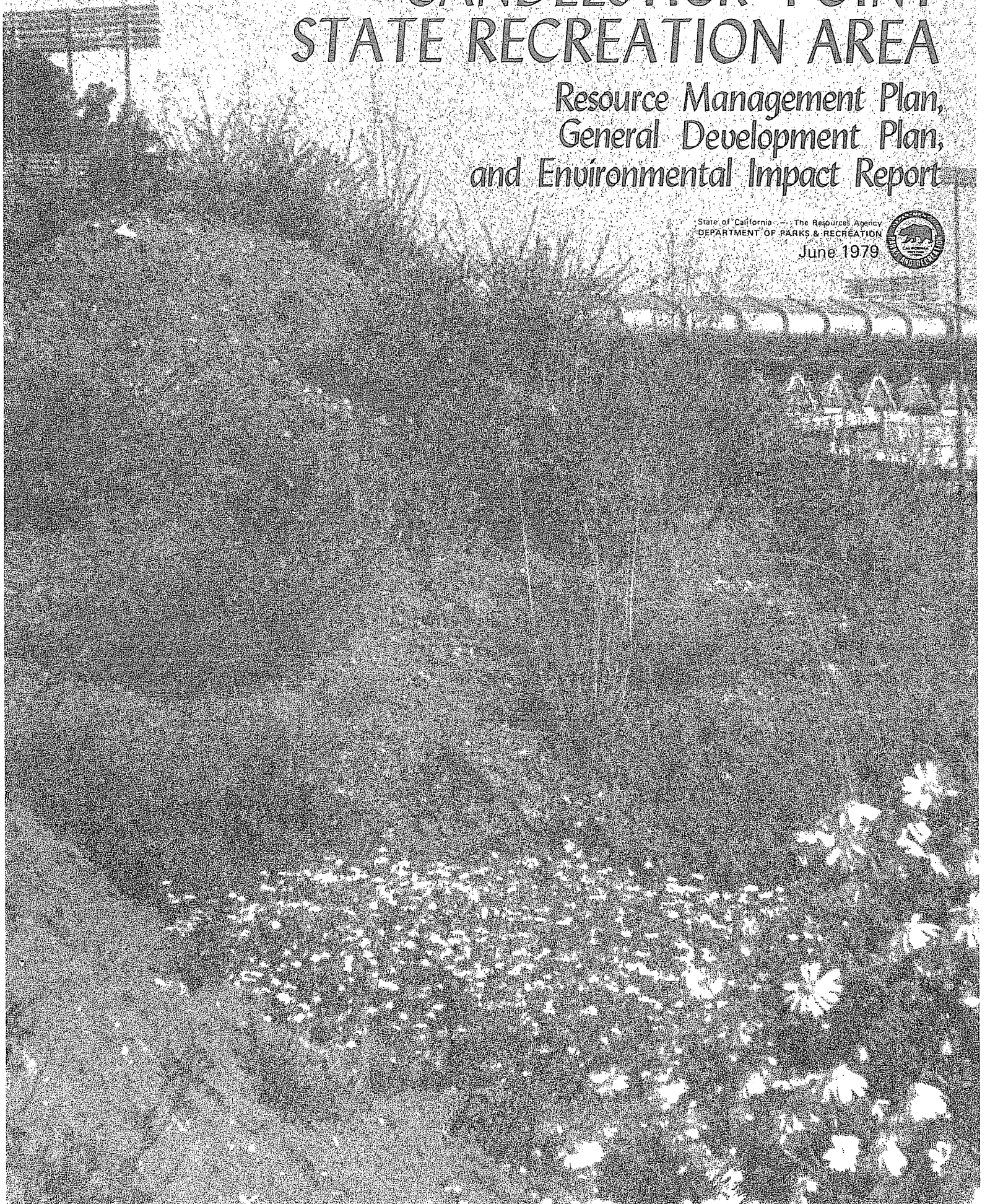


CANDLESTICK POINT STATE RECREATION AREA

Resource Management Plan,
General Development Plan,
and Environmental Impact Report

State of California The Resources Agency
DEPARTMENT OF PARKS & RECREATION

June 1979



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With special thanks to:

The Candlestick Point Citizens' Advisory Committee

CANDLESTICK POINT STATE RECREATION AREA

RESOURCE MANAGEMENT PLAN,
GENERAL DEVELOPMENT PLAN,
AND
ENVIRONMENTAL IMPACT REPORT

June 1979

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State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
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STATE PARK AND RECREATION COMMISSION

P. O. BOX 2390, SACRAMENTO 95811



Resolution 64-78
Resolution adopted by the
CALIFORNIA STATE PARK AND RECREATION COMMISSION
at its regular meeting in San Francisco
November 17, 1978

WHEREAS, the Director of the Department of Parks and Recreation has presented to this Commission for approval the proposed Resource Management Plan, General Development Plan, and Environmental Impact Report for Candlestick Point State Recreation Area; and

WHEREAS, this reflects the long-range development plan as to provide for the optimum use and enjoyment of the unit as well as the protection of its quality;

NOW, THEREFORE, BE IT RESOLVED that the State Park and Recreation Commission approves the Department of Parks and Recreation's "Resource Management Plan and General Development Plan for Candlestick Point State Recreation Area," Preliminary dated June 1978, subject to such environmental changes as the Director of Parks and Recreation shall determine advisable and necessary to implement carrying out the provisions and objectives of said plan.

Re. **CANDLESTICK POINT SRA GENERAL DEVELOPMENT PLAN**
Approved Nov 1978, Final printed Jun 1979

Note: This General Development Plan report was made functionally obsolete when the Park and Recreation Commission approved a "General Plan Amendment" in May 1987. The Final Amendment report, printed in Mar 1988, revised or reprinted the entire original RMP-GDP-EIR.

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Foreword

The existence of Candlestick Point State Recreation Area as a unit of the State Park System is a giant stride forward. It demonstrates the state's commitment to making its park resources more available to the people.

Candlestick Point is located in one of California's major population centers, and is readily accessible to about four million citizens. It is now a narrow stretch of depleted and abused land that forms part of the magnificent San Francisco Bay.

This wasted land is about to undergo a major transition.

The staff of the Department of Parks and Recreation takes pride in participating in this innovative effort. Although it is a departure from the traditional role of the State Park System, you will note as you read this plan that the standards and ideals of the system have not been compromised.

Because of information acquired during the planning activity for Candlestick Point, we now know that the state can play an urban parks role that does not duplicate the efforts of local government. We can develop urban parks that will attract citizens from across the state, and also will meet local needs. And we know that the quality and standards of the State Park System can be upheld and even strengthened by these efforts.

To develop or restore a park unit requires wisdom and foresight, and a positive attitude about our limited resources the scarcity of open space and recreational opportunities in urban areas.

State park planners have demonstrated their sensitivity to the needs of those closest to Candlestick Point - the local communities. The planning approach has considered both the socioeconomic and psychological factors of the communities and the expanded roles of recreation providers in dealing with these factors

The planners have expressed to the department's executive staff their hope that development of Candlestick Point will create jobs for local residents.

The unemployment rate in the Bayview/Hunter's Point communities is high, and it would be appropriate to provide these opportunities to work.

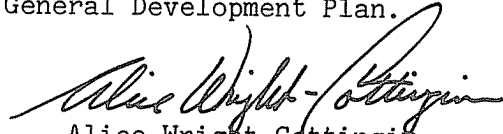
Community residents have suggested that their economic involvement should go beyond jobs, giving local business people the responsibility of contracting with the state to provide visitor services.

Employment opportunities could be created through: (1) construction of state recreation facilities; (2) maintenance of these facilities; and (3) operation of programs in these facilities.

The department will take these concerns seriously as development of Candlestick Point gets under way.

Creation of state urban parks is a commitment to California's citizens. This General Development Plan is our first step toward setting standards of state significance for urban recreation efforts. It is the beginning of an important evolutionary process--building parks for people.

We wish to thank the members of the planning team for their dedication to a document that will convert the ordinary into something extraordinary--the Candlestick Point State Recreation Area General Development Plan.

A handwritten signature in cursive script, reading "Alice Wright-Cottingham".

Alice Wright-Cottingham
Chief Deputy Director
Department of Parks and Recreation

Summary

This document provides resource management policies and development proposals for Candlestick Point State Recreation Area, the State Park System's first urban development. Located on the shore of the San Francisco Bay, this recreation area represents a new direction for recreation planning. Its statewide significance stems from the fact that Candlestick Point is part of the state's largest estuarine system.

Candlestick Point is unique because it is situated on landfill, which was artificially created to provide a location for a U.S. Navy shipyard during World War II. This condition has required that plans for development be tailored to the landfill's characteristics. Before this human intervention, the location consisted of marsh lands and mudflats, and it is slowly and naturally returning to that state.

Candlestick Point SRA can potentially serve some four million residents of the San Francisco Bay Area, in addition to serving people from other areas of the state. However, its primary impact will be on local residents.

This plan calls for development of a 170-acre recreation area that will provide many different kinds of visitor experiences.

Picnicking and boating are high-priority recreational activities. The plan calls for several picnic areas, including one for groups of handicapped persons. Docks are proposed for both powered and non-powered watercraft.

Other priorities are camping and day use activities. Two group campgrounds are proposed, as well as a cultural program center and a nature education center.

Four fishing piers are proposed, to improve current fishing conditions in the area.

Hiking and bicycling trails are also proposed, so visitors can enjoy the scenic beauty of the site without using motorized transportation.

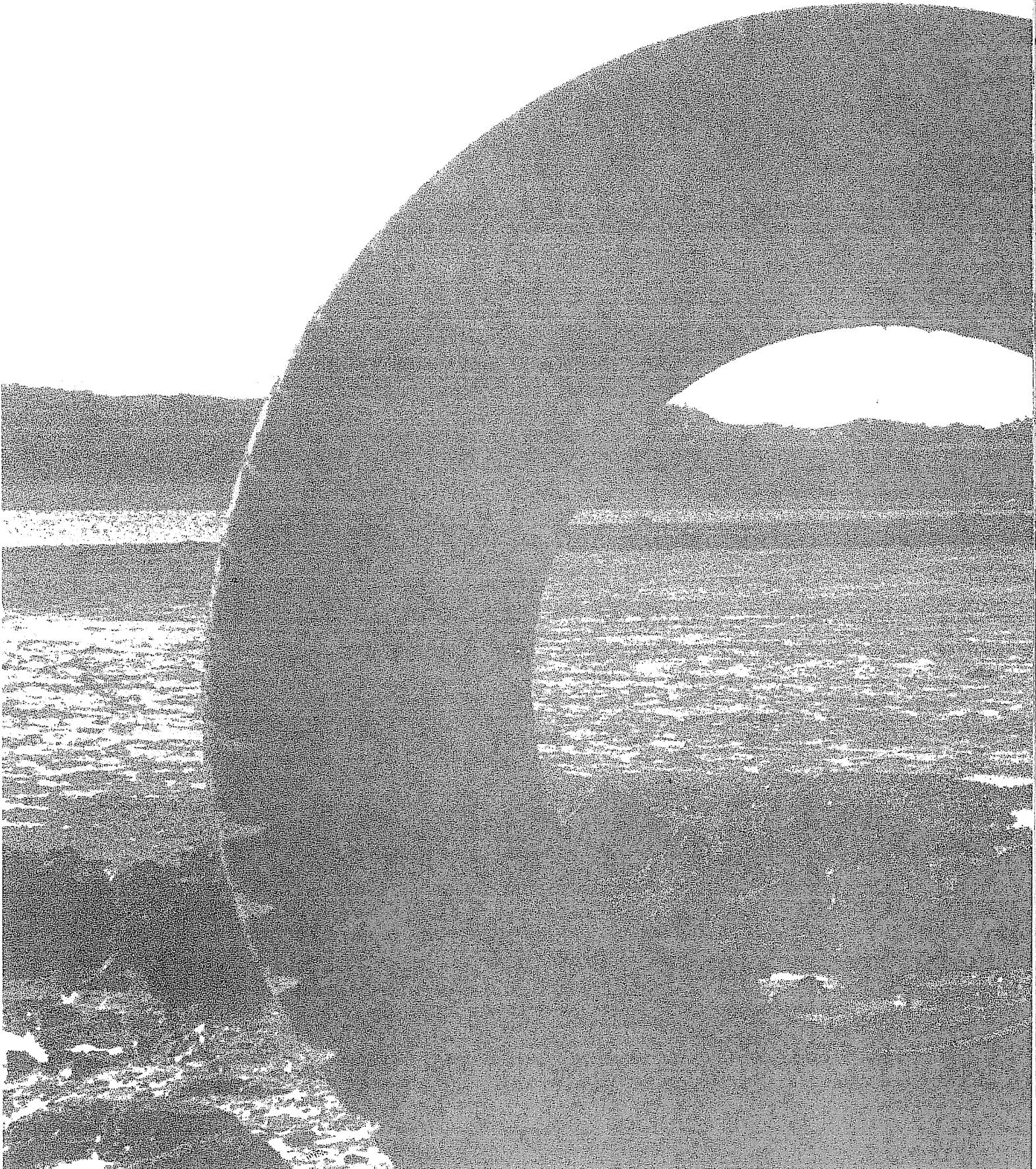
The plan recommends that the Department of Parks and Recreation work with public transportation providers in the bay area to provide adequate transit facilities--including bus, rail, and possibly ferry service--to Candlestick Point.

The basic philosophy behind this plan is public involvement. It has been an integral part of the planning process. The plan recommends that local residents aid in the decisions and provide the human resources that will make Candlestick Point SRA a successful experience.

Marshlands are like cities to wildlife,
for they support a high density and variety of species.

*John B. Cowan
Wildlife Manager-Biologist
California Department of Fish and Game*

INTRODUCTION



Purpose of Plans

In April 1977, Candlestick Point was classified by the California State Park and Recreation Commission as a state recreation area. The purpose of this plan is to provide general guidelines for all area development and management, in accordance with this classification.

The plan is the beginning guidelines of a continuing process. It began with an inventory of the San Francisco Bay's natural, cultural, and recreational resources, and human influences. It then moved into development of plans for future use, and the compatibility of the land and water with the recreational facilities in public demand. This document reflects this part of the process -- the policies, future guidelines, and conceptual desires for a recreational area. The general planning process does not end here, but continues to grow flexibly, as more information is gathered and the urban recreational area develops.

The specific objectives of the plan are:

1. To add to the improvement of the quality of urban life, and to instill a sense of response, recognition, and pride in the environment around an impacted city.
2. To identify and understand the ecological life-cycles on the San Francisco Bay frontage and its natural and cultural resources, and to create on this site the State Park System's celebration of the San Francisco Bay.
3. To identify the surrounding influences on the site, and the recreational and human resources of the San Francisco Bay Area.
4. To provide public accessibility to the shoreline of the San Francisco Bay.
5. To expand visitor experiences, so visitors can reflect, appreciate, and enjoy the natural, cultural, recreational, and human resources.
6. To identify the need for paid and voluntary public participation in building, maintaining, and programming the unit facilities.
7. To establish policies for management, protection, and interpretation of the resources.
8. To identify lands outside the existing park boundaries that would be valuable additions to the unit.
9. To make recommendations for additional studies beyond the scope of this document.
10. To determine the potential environmental impacts of these visitor activities and land uses.
11. To provide an informational document for the public, the legislature, park personnel, and other government agencies.

Statewide Significance

Candlestick Point State Recreation Area is of statewide significance because it is the first State Park System unit purposely acquired to bring State Park System values into an urban setting.

The statewide significance of an acreage and shoreline on the biggest and most significant estuarine system in California is the most obvious factor. Candlestick Point SRA, with its bay shoreline, is less than one hour away from millions of urban dwellers; this is certainly a major attribute to statewide significance.

Candlestick Point SRA enables the State Park System to extend recreational and cultural facilities to urban areas, where opportunities for access to the system have traditionally been limited. Making the system available in an urban setting relates urban dwellers to the natural environment. The dependents of that relationship can be demonstrated by programs that understand the city as an ecosystem, different than, but part of, the natural ecosystem of the SRA.

Project Description

Candlestick Point State Recreation Area is located in the southeast part of the city and county of San Francisco, and the northeast part of San Mateo County. The project is accessible by walking, biking, boating, auto, and bus, from residential, industrial, and commercial areas of the bay area and the peninsula.

Access is from Highway 101 (Bayshore Freeway) and city streets. The project includes about 170 acres, and about 3-1/2 miles of San Francisco Bay shoreline. The project boundary abuts the United States Navy Shipyard at the furthest northern border, and the San Mateo County line to the south. The project is directly across the street from the San Francisco Executive Park, Candlestick Stadium, and the Alice Griffith Housing project.

Historical Background

History of the Land

The name of the project originated with the naming of a small rock and outcropping near the site, by the U.S. Coast Survey in the 1800s. This rocky pinnacle resembled a candlestick; it is believed to have been located on land now occupied by Candlestick Stadium.

In 1868, the state legislature approved an act "to survey and dispose of certain San Francisco Bay salt marsh and tidelands belonging to the State of California". The act was the basis for public and private development along the San Francisco Bay waterfront. This included establishment of the block

pattern in the tidelands, and the "reservation of streets, docks, piers, canals, basins and other use necessary for public convenience and the purposes of commerce".

In November 1940, the U. S. Government purchased the 48.6-acre Hunter's Point Shipyard from Bethlehem Steel. A year later, following the declaration of war, the U. S. Navy began a program of rapid expansion. Hills on the site were leveled to more flat industrial land, and the residue was used to fill the surrounding tidelands for further expansion of the shipyards. By the end of World War II, there were more than 500 acres of land in the shipyard.

The shoreline below the shipyard in the south basin and Candlestick Point had remained virtually undisturbed for 90 years. The coves and beaches along the shore, where people could fish, picnic, and play at the water's edge, were a source of pleasure, and a great asset to the area.

A major land use change during this period was the construction of Candlestick Stadium and its parking lot, and the haphazard filling of the adjacent tidelands in the Hunter's Point Reclamation District. The fill for the parking lot allowed access, to reach and fill tidelots further out in the bay. This fill activity turned the shoreline into the uninviting wasteland of junkyards and dump sites that is being purchased by the State of California for Candlestick Point State Recreation Area.

The entire proposed recreation area is situated on land fill.

Two major problems must be anticipated, due to the poor quality of the fill. The first of these is leaching of undesirable materials into the bay; the second is settlement of the land fill, due to structural instability.

RESOURCE MANAGEMENT PLAN



RESOURCE MANAGEMENT PLAN

Unit Identification

Candlestick Point State Recreation Area comprises approximately 69 hectares (170 acres), located along the western shoreline of the San Francisco Bay. The area encircles Candlestick Stadium on the south, east, and north sides.

The area was classified by the State Park and Recreation Commission as a state recreation area, since it is capable of withstanding extensive human impact. It is close to large centers of population and major routes of travel; it has proven recreational resources; and it can be developed and operated to provide many outdoor recreational and interpretive opportunities of the San Francisco Bay, its surroundings, and the bay ecosystem.

Resource objectives will be to use the many recreational features and resources of the San Francisco Bay and shoreline within the recreation area for the use and enjoyment of the people of the state. Resources present now, or those that may become established or developed, will be managed and protected so they will be perpetuated for future generations to enjoy.

Resource Inventory

A resource inventory for any area is an inventory of all resources present in the area. It may include all plants, animals, and other features (including cultural) which make up the past or present environment, or can affect or modify it. Maintenance of the inventory is a never-ending process.

The Resource Inventory for Candlestick Point State Recreation Area has been initiated, but is not complete. Information about the area and the adjacent bay is being compiled by the department, and can be found in the files of the Resource Preservation and Interpretation Division.

Resource Evaluation

The land area of the unit, except for one very small area, is all fill material that has been placed over the natural bay deposits. This material is subject to subsidence, since the bay bottom contains unconsolidated muds and silts that are vulnerable to any type of movement. Subsidence can be caused by: 1) actual compaction of the bay mud units, or 2) lateral spreading of the fill and/or mud.

The first almost always occurs. The second occurs primarily where the fill and/or mud has a steep margin.

The State Division of Mines and Geology has made recommendations to various agencies in the past regarding the filling of bay lands, and construction on these fills. Specific charts describe the expected amount of settlement with the passage of time. If the fill has been in place for 5 or 10 years, one could expect that most, but not all, of the settlement has taken place.

Information needed to determine how much settlement will occur includes depth to bedrock (or base of bay mud), thickness of the fill, and length of time the fill has been in place.

Large earthquakes can be expected to occur near the site, since the closest known active fault, the San Andreas, lies only 11 kilometers (7 miles) to the southwest. Several other known active faults are close enough to cause severe damage. Large earthquakes can cause liquefaction, lateral spreading, and even massive ground collapse (such as the Turnegan Heights landslide in Anchorage, Alaska, in 1964). Earthquakes could also cause water movement in the bay that could inundate the adjacent low-lying lands.

The unit is next to the Bayview community and the San Francisco Bay. The Bayview community adds an element of walk-in accessibility to the state facility. The unit also has areas of physical isolation from residences. These areas of seclusion are enhanced by distant views of San Bruno Mountain, the East Bay Hills, and the San Francisco Bay, which impart a relaxing sense of solitude. Enjoyment of the striking panoramic views, and direct contact with the San Francisco Bay, are also enhanced by the relatively good weather characteristic of this locale. Winds experienced in the area tend to be gusty and quite strong at times.

Natural Values

The natural environment of significance is the San Francisco Bay itself. Although the present shoreline is a fill with a rapid drop-off, there is a narrow fringe of wetland habitat that supports some marsh grasses and pickleweed. Introduced ornamental shrubs are found farther back on the fill. The fill, faced with rock riprap, is most apparent at low tide, as the steep sides drop abruptly into the bay mud and sand. In the mud and sand beds are a number of invertebrates, including soft shell and bent nosed clams, ghost shrimp, marine worms, and many other small animals.





Oysters and other invertebrates are found on the rocks along the shoreline. All of these invertebrates are important to the bay ecosystem. Additionally, the bay waters provide a habitat for a number of fish species. The bay also supports a relatively large population of waterfowl and water-associated birds, many of which are migratory, and a smaller number that are resident. Many of the invertebrates, from the smallest to the largest species, are important links in the food chain. (See Appendix E)

Vertebrates such as fish and birds are at the top of this chain. Thus, in spite of human activities that have included dumping of trash and waste material in the bay, there has been some re-establishment of the natural environment, and it has great potential for future improvement and enhancement.

No known rare or endangered species of flora or fauna are found within the current state recreation area. The brown pelican, an endangered species, is sometimes seen flying off-shore over the bay.

Fishing and birdwatching provide recreational interest to many visitors now using the area.

Generally, the San Francisco Bay is rather shallow south of San Francisco, and some problems exist for boats with keels and deep drafts. Channels are required to get some boats out into the deeper water.

Cultural Values

The area consists of recent fill; archeological values, if ever present, have now been covered up. It is not believed that anything of historic significance has taken place at the site.

However, the fill itself is a cultural resource of great significance. It is a major human action that has had a pervasive effect on this site, and on the bay itself. It typifies the fill-for-more-land syndrome, that threatened the very existence of the bay. It also typifies the dump-in-the-bay syndrome, that has so widely damaged the quality of the shores of the bay.

Declaration of Purpose

The primary purpose of Candlestick Point State Recreation Area is to make available to the people the recreational opportunities, passive and active, that are offered by the shoreline, waters, and environment of the San Francisco Bay, and the adjacent bay waters. The lands and resources of the site may be modified or enhanced to achieve optimum realization of the recreational potential.

Declaration of Resource Management Policy

Natural Resource Management

The setting of Candlestick Point State Recreation Area next to the San Francisco Bay provides important opportunities for satisfying the recreation and open space needs of people living or visiting in the San Francisco area. It is the policy of the department to protect the scenic values, and to enhance, manage, and protect the biotic and natural resources of the area, while fully realizing the potential of the area for fulfillment of outdoor recreation needs.

Cultural Resource Management

The area has no known cultural resources in the traditional sense. As it is developed, cultural values may be discovered or created. It will be the department's policy to protect and perpetuate all cultural values found or established in the area, and to interpret the lives and activities of Native Americans who formerly lived in and enjoyed the area.

Recreational Resource Management

When determining what recreational activities should be provided at this unit, the primary concern should be to meet the needs of the people (primarily urban dwellers), in conformity with maintaining a desirable physical setting on the bay shore.

All departmental activities within Candlestick Point State Recreation Area will be carried out in conformance with the Resource Management Directives of the department.

Interpretive Policy

The area has great interpretive potential for programs dealing with urban populations and their understanding of human ecology, in relation to both the human and natural environments.

Its primary cultural attribute is that it is almost entirely an artificial bay fill. This fact offers many options for enhancement of the site for recreational benefit, and provides an opportunity for interpretation of the effects of bay fill.

It is the policy of the department to develop and conduct interpretive programs at this recreation area which will contribute to visitors' understanding of, and responsibilities to, the environment of the San Francisco Bay region, as it existed during its occupation by Native Americans, and as it exists today.

GENERAL DEVELOPMENT PLAN



GENERAL DEVELOPMENT PLAN

Introduction

This General Development Plan describes verbally and graphically what should be done at Candlestick Point State Recreation Area. It lists what facilities are appropriate, and what use should be made of the land. The plan also describes where these uses and facilities should be located.

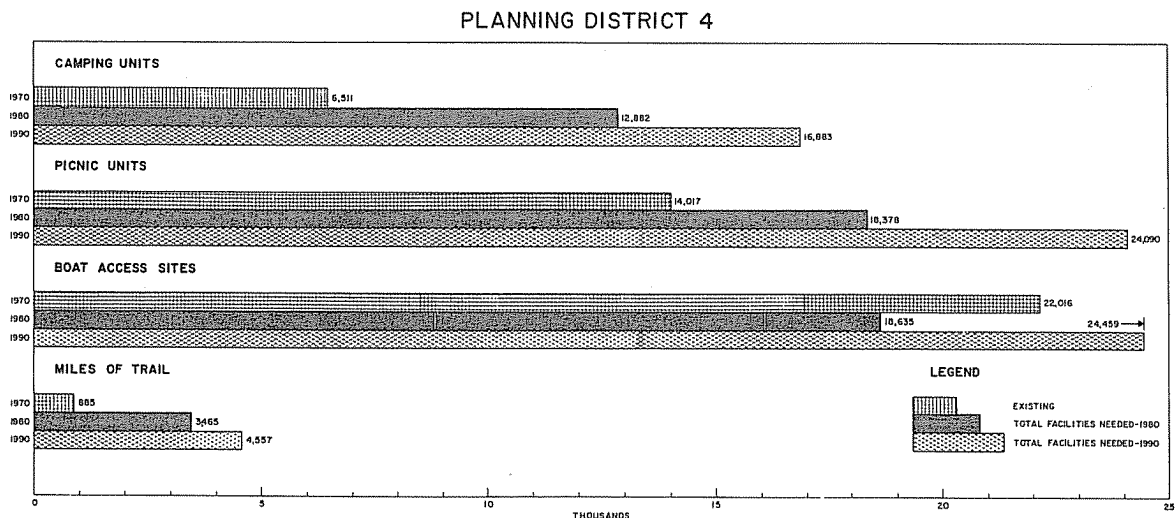
Recreation Demand Analysis

Candlestick Point State Recreation Area is located on the San Francisco Bay, within 1 1/2 hours' travel time for most bay area residents. The recreation area is located in Planning District 4, which is comprised of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. These counties contain 22.62% of the state's population.

Currently, there are more than 1,200 public and private recreation areas in the bay area; these include more than 450,000 acres.

This area has the largest per capita demand (current and projected) for outdoor recreational facilities of any in the state. Demand is greatest within a driving time of less than one hour. In determining demand in California, the state's Park and Recreation Information System (PARIS) was used. The PARIS study indicates a great need for more public recreation facilities (see graph below). The General Development Plan for Candlestick Point State Recreation Area is aimed at helping to fulfill these needs.

Figure 1
Study of Recreational Facilities in Planning District 4



Public Land Transportation Analysis

According to federal officials, 50 percent of the bay area's 4.4 million urban residents are unable to reach the 470,000 acres of public park land around the San Francisco Bay, due to the inadequacies of public transit.

Because of this problem, it is of primary importance to recognize and address the public transportation situation. Local systems available to bay area residents include: Golden Gate Transit, the San Francisco Municipal Railway (MUNI), San Mateo County Transit (SAMTRANS), Alameda/Contra Costa Transit (A/C Transit), the Bay Area Rapid Transit System (BART), and the Southern Pacific Railway.

Because Candlestick Point State Recreation Area is in the City and County of San Francisco, the only direct transit system to the unit will be the San Francisco Municipal Railway. All other systems will enter the City and County of San Francisco; passengers must transfer to a municipal railway line to reach the recreation area.

During the planning process, the San Francisco Municipal Railway was consulted for its assistance in developing future bus lines to the recreation area.



Municipal Railway planners supported the concept of recreation transit routes. Their experience with a summer recreational transit project to the Golden Gate National Recreation Area was very successful. Many bay area residents used the bus to visit various lands in San Francisco and Marin Counties. However, due to insufficient funds, the program was terminated.

The railway planners also made Department of Parks and Recreation planners aware of the present weak bus lines to the nearby Bayview community, and that there are currently no San Francisco Municipal Railway routes directly to Candlestick Point State Recreation Area.

The San Francisco Municipal Railway is compiling an updated grid plan for its bus routes through the City of San Francisco. In this rerouting of the San Francisco City Municipal line, Candlestick Point State Recreation Area will be noted as a important recreation facility, needing bus stops and bus connections with the other transport systems. The actual bus locations will be determined through further discussions between the Department of Parks and Recreation and the San Francisco Municipal Railway system.

This analysis proposes that the department commit itself to coordinating a transportation network, using existing local transportation systems, that will bring people by public transit to visit this and other state lands in and near impacted urban centers. The proposal will involve further studies, funding, and programming.

Land Use Analysis

Existing Land Use

The land at Candlestick Point State Recreation Area is vacant, with no paved roads. There are about a dozen Butler-type metal buildings on the site; no attempt at beautification has been made by any of the owners or operators.

About 25 percent of the land is in permanent or semi-permanent industrial use; auto wrecking and salvage operations are the main industries. Of the remaining vacant land, about 160,000 square feet is used about 10 days a year as overflow parking for Candlestick Stadium.

Indiscriminate dumping over the years has covered much of the area with trash and debris. In spite of the deplorable condition of the land, however, much of the shoreline is used quite extensively by fishermen.

- 1,2 - Auto wrecking
 3 - Auto storage
 4,5,6,7, - Salvage
 8,9 - Trucking
 10 - Parking
 11 - Storage, auto wrecking, trucking
 12 - Construction corp. yard
 13 - Steel fabrication area
 14 - Moving company storage
 15 - Welding

Figure 2
 Existing Land Use



Proposed Land Use

Design Criteria

The details of design for facility developments cannot be formulated at this general and conceptual planning stage. However, it is important to convey the general concept which should apply in the future to the detailed design of facilities.

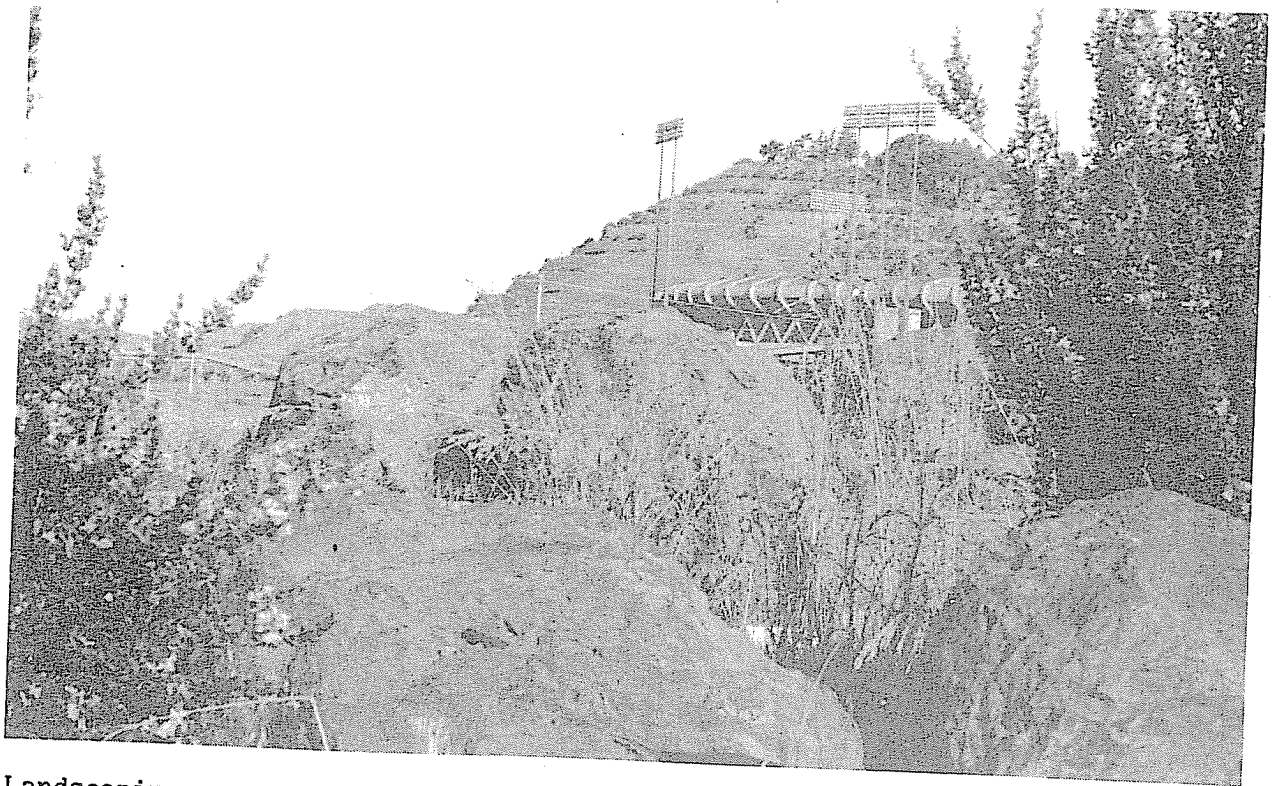
The design criteria for Candlestick Point improvements should create an environment which supports the physical, social, psychological, economic, and esthetic needs of humanity. To satisfy such design criteria will require a sensitive appreciation of nature, humanity, and the city, as interrelated positive elements. Humanity, nature, and the city are compatible elements of well-designed spaces.

Suggestions for implementation of this design include mounds that create images of mountains and hills, open grassy areas for meadows and valleys, clusters of trees for forests, and adventure play areas for climbing.

In these spaces, people can experience their needs and sensitivities for air, light, space, water, food, and shelter, as well as social-psychological experiences in security, privacy, interaction, and variety. By being sensitive to human needs, the design is able to incorporate these needs into compatible activities and spaces. It is important to keep these design criteria in mind while reviewing the developments proposed in this plan.

Construction of the recreation area at this site requires design techniques compatible with the land form. The planners and designers recognize this opportunity to include appropriate design and technology.

For further understanding of the bay landfill, refer to the mapping of bay mud properties, plot plans of the artificial fill, bay mud limits, structural site considerations, and the regional geologic survey (Appendix E)



Landscaping

Landscaping is without a doubt the single most important element in the development of this recreation area. By the time the project is completed, trees, shrubs, flowers, ground cover and lawns will cover more than 80 percent of the land within the unit.

At the public workshops, the people strongly voiced their desire to have California native plant materials used exclusively within the recreation area, with the possible exception of the lawns. Insofar as possible, that mandate will be followed.

The landscape design theme for Candlestick SRA will, within the limits of topography and climate, be the simulation of various California landscape provinces.

The Nature Area will consist exclusively of San Francisco Bay Area native plants. The remainder of the recreation area will follow the description stated in the Design Criteria Section (page 20): "Mounds will create images of mountains and hills, open grassy area - meadows and valleys, and clusters of trees - forests."

The intent here is that both of the open grassy areas, the Quiet Area, the Group Camp Area, the North Shore, and the Family Picnic Rest Stop could each depict and interpret a different portion of California's landscape. A person bicycling or hiking along the trails would experience something of the beauty and diversity of the state.

The sensitivity with which the landscaping is designed and installed is of paramount importance to the visitor experience, as well as to the success of the overall interpretive program.

Windscreening

The potentially adverse seasonal winds must be considered in all aspects of the design. Hills, mounds, or tree groupings will protect all intensive use areas from summer winds.

Individual wind screens, similar to those at San Buenaventura State Beach, will be constructed in the family picnic areas.

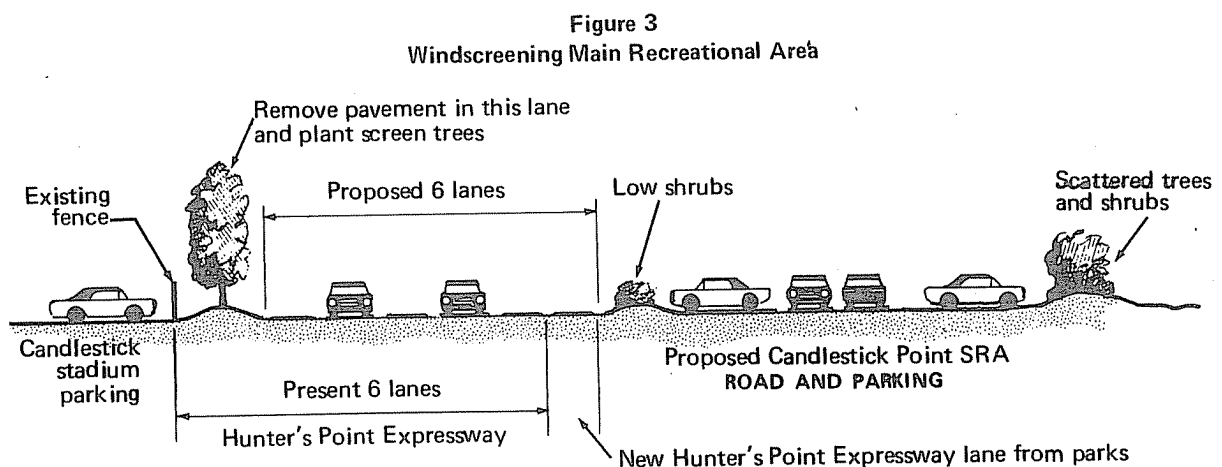
An interesting observation was made by the planners on an initial visit to the project site. The existing fishing pier on the North Shore had had scrap boards nailed onto the guard rails on the windward (west) side. Noting that this had obviously been done by fishermen as a wind protection measure, it was decided that all proposed fishing piers should be similarly protected.

Public input, as well as observations made by the planners, indicates clearly that a dense row of tall trees along the west boundary will afford substantial wind protection to the main body of the recreation area. These trees will also serve the dual purpose of closing off the recreation area from the negative visual impact of the Stadium parking lot.

Initially, it was thought to put these trees along the recreation area boundary, on the east side of the Hunter's Point Expressway. However, with the California Department of Transportation's proposal for development of Route 230 progressing on about the same schedule as this project, it seems feasible that the trees could be situated on the west side of the Hunter's Point Expressway, thereby affording passersby a pleasant view of the recreation area and the bay.

To facilitate this, it will be necessary to negotiate with CALTRANS and the City of San Francisco to plant the screen trees near the western lane of the Hunter's Point Expressway, as part of the Route 230 construction project. The Department of Parks & Recreation would, in turn, relinquish to the city a strip of land along its western boundary, to replace the lane used for planting.

Scattered clusters of trees and shrubs planted inside the new recreation area boundary would then provide vistas into the recreation area and the bay beyond.



Proposed Windscreening along Hunter's Point Expressway in Conjunction with Proposed Route 230



Public Involvement

Continued public involvement is essential to build and maintain Candlestick Point State Recreation Area. The SRA needs the public, to build pride, and to maintain itself as an innovative and creative interface between man, nature, and the city.

Public involvement began as a planning process tool, and has grown and developed into trust, pride, and enthusiasm between bay area people and the Department of Parks and Recreation. This relationship must continue throughout the building and operation of the state recreation area. Operations is an all-encompassing term, including public involvement in the programming, interpretation, facilities (especially the Cultural Program Center, community gardens, and Nature Educational Center), concessions, and security of the recreation area.

Programming

A program is a plan that determines how facilities will be built and used, and who will build them, take care of them, and use them. Implementation of a plan, construction of facilities, and maintenance, operation, and use of the facilities constructed are programs.

During the public participation workshops for Candlestick Point State Recreation Area, there was constant and repeated comment supporting future community programs at the recreation area. The degree of interest in this

program area was far in excess of the interest shown in what was provided, or where. Generally, everyone was in favor of a park with grass, trees, and water-oriented facilities -- but how those things get to be there, cared for, and used is of the utmost importance.

This need for programs originating within bay area communities to build, maintain, and operate Candlestick Point is recognized and considered to be part of this plan.

Interpretation

Interpretation at Candlestick Point State Recreation Area should accommodate the varying needs and interests of urban dwellers. It should further introduce visitors to new and unsuspected recreational and educational opportunities.

The development of two primary themes centers around two valuable resources at Candlestick Point State Recreation Area. One is adaptation of the ecological system to intrusion by people; the other is the untapped human resources in the city.

Adaptation of an ecological system to intrusion by people is a unique feature of Candlestick Point. Interpretation would emphasize the drastic changes in the ecological system. The story of the land fill must be told to its best advantage.

Parallels can be drawn between the adaptation of people in a changing environment, i.e., from rural to city dwellers, and the change in the overall ecology of the area as it adapted from land fill to state recreation area.

A subtheme would be interpretation of the mudflats and marsh lands. This could include a discussion of these ecological adaptations, how they formed, how they change through time, the animals and plants which inhabit them, and the animals and birds that rest during their annual migrations.

Another subtheme will be interpretation of the State Park System itself -- what it means to urban dwellers, what it has to offer them, why it is important to them, how they may enjoy it, where they can find its units near them, and how they can get there.

Development of another primary theme, which centers around the diverse populations of the urban area surrounding Candlestick Point, is also necessary. This theme would incorporate the concepts of human dynamics, self-discovery, and self-improvement.

Little is known about urban interpretation. It is therefore imperative that flexibility be the keynote for any planning of such interpretation at Candlestick Point State Recreation Area. An entirely new system of interpretation, programming, activities, and facilities includes creative ideas concerning non-renewable resources, energy systems, human potential, leisure time, self-enlightenment, awareness, and a sensitivity to the surrounding lands. These are all potential subthemes of urban interpretation at Candlestick Point.

Vehicle Circulation and Parking

Highway 101 and major city streets are near the SRA. Traffic during the weekdays is light, consisting mostly of industrial trucks traveling from Highway 101 to the India Basin Industrial Park and the stadium. On Candlestick Stadium ballgame weekends and weekdays, traffic is congested on Highway 101 and along Harney Way, Jamestown Avenue, the Hunter's Point Expressway, Gilman Street, and Carroll Avenue. This circulation problem will not be mitigated by development of the state recreation area.

The recreation area's vehicular circulation will be via an interior roadway, directly into a state parking lot. Access points for the recreation area are:

1. Off Harney Way, directly into the Transient Power Boat Docking Area parking lot.
2. Off the Hunter's Point Expressway.
3. Off undeveloped city streets (Armstrong Avenue and Griffith Street).

People entering or exiting from the Hunter's Point Expressway contact station or the Armstrong Avenue-Griffith Street contact station will drive along the periphery road (parallel to the Hunter's Point Expressway). This will be a two-way paved road, with landscaping and parking on either sides, and with vistas of the San Francisco Bay and activities in the state recreation area.

The plan proposes a realignment of Carroll Avenue and Gilman Street. This change would help circulation from Gilman to Carroll, and would provide better use of the current isolated parcel of state land west of Fitch Street. It would also provide the recreation area with a wider parcel of land to use, and would complement the proposed group picnic area and grassy open space.

The proposed Route 230 (connection Highway 101 to Highway 280 North) is under study by the State Department of Transportation (CALTRANS). CALTRANS planners have been involved throughout the planning process. The planners feel Route 230 will aid in the circulation situation. The exact route of 230 has not been determined; however, Department of Parks and Recreation planners have been assured that the route will not go directly through Candlestick Point State Recreation Area, but will follow existing major streets. Landscaping of the route, as well as considerations for pedestrian crossings to the recreation area, will be studied by CALTRANS.

Parking is another issue of concern at Candlestick Point. Currently, Candlestick Stadium's ballgame fans park in the stadium lot, and on surrounding vacant lots used for overflow parking. Some of these vacant lands will be absorbed by the recreation area. This plan does not propose to retain the vacant land as overflow parking lot areas. Parking for the recreation area will be predominantly peripheral, allowing the interior of the recreation area to be free from vehicular intrusion. This plan allows for 1,250 parking spaces, to fulfill the projected attendance of 5,000 persons on a prime recreational day. Fees will be collected for parking.

The City and County of San Francisco have submitted a proposal suggesting realignment of the state recreation area boundaries, somewhere between Carroll Avenue and Gilman Avenue. Some people feel this will increase overflow parking lot lands, which they need on heavy ballgame days. There are no structural development plans that would eliminate consideration of this conceptual realignment. Therefore, the Department of Parks and Recreation staff feels the proposal is flexible and workable. However, the exact locations and details of the city's proposal will need further investigation, discussion, and public review, before any decisions are made.

Estimated figures and analysis of the overflow parking situation is provided in the Environmental Impact Report, page 48.

Security

The best form of security is generated by people themselves. The more people mingling and moving through a space, the less likely the chance of problems. This is another example of the necessity and importance of including paid and voluntary (docent) community public involvement in the programming, building, maintaining, and concessions of the state recreation area. This plan proposes a total commitment of the Department of Parks and Recreation to continue involvement of the surrounding communities. Community involvement will develop citizens' pride and sense of ownership, to protect and maintain the state recreation area.

Other dimensions of security are the physical barriers, contact stations, and fencing, which the SRA staff will need to initially control the unit.

All vehicle traffic into the recreation area should enter and exit past a ranger at the contact stations. The two contact stations will act as control points for the recreation area.

There will be night lighting along the parking lots and roadways. Lighting will also be necessary at the Cultural Program Center and the Transient Power Boat Docking Area restaurant. Other lighting will be provided elsewhere in the area, and at the fishing piers.

From past experience, the stadium people have had to deal with anxious ballgame fans who will drive through most standard barriers. The fans move the barriers to park their cars, and then go off to see the games. Therefore, the need for sophisticated design barriers will be needed along the entire recreation area where it parallels the Hunter's Point Expressway and Harney Way.

The plan will provide fencing around the entire natural area, to prevent domestic animals, people, motorcycles, and other intrusions from disturbing rehabilitation of this area. This fence will travel from Shafter Avenue to the contact station at Carroll Avenue. The U.S. Navy has requested a double fence between its property and the state recreation area. The double fence is agreeable to the general development plan. The rest of the SRA boundary will have some fencing, but it will be minimal, because this is a day use area, and encouragement of walk-in use of the unit is important.

Shoreline Changes

These changes are proposed in the view that they will enhance visitors' experiences at Candlestick Point.

In the nature area, the plan recommends a 100 to 150-foot-wide cut through the proposed boundary, to increase the mudflat and marsh habitats, and to create a bird island for isolation and protection from people, domestic animals, and other threatening intrusions.

Along the eastern shoreline, the plan proposes some minor cuts and fills, to create a less geometric and more pleasing and free-form shoreline edge. This change will also enhance the cove experience for non-powerboat boaters and sand beach users.

Proposed Development

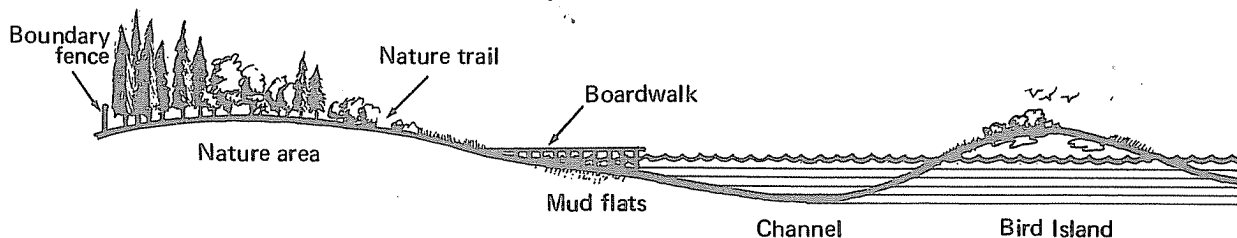
Nature Area

A nature area will be created at the north end of the unit, within a 32-acre parcel of land separated from the main body of the recreation area by Yosemite Canal. This site was selected because of its extensive mudflat areas, with the observed presence of bird life and shellfish, and because isolation of the area from the rest of the unit permits good management and protection from the large numbers of visitors who will come here for recreation only. Native trees, shrubs, and ground cover will be planted in this area, in an attempt to re-create and interpret San Francisco Bay region vegetation before Euroamerican intrusion. Large trees will be planted at the northern boundary, with successively smaller trees and shrubs toward the water, and with marsh grasses and pickleweed at the water's edge. A channel will be cut diagonally through the southern tip of this parcel (see Shoreline Changes, above) to create a bird island that will afford migratory and local birds a resting place safe from land animals, especially dogs. A self-guided nature trail will loop through the nature area. This trail will include a boardwalk, to take people into and over the mudflats.

Nature Education Center

The Nature Education Center is located at the water's edge, across Yosemite Canal from the nature area. This facility will consist of a building of sufficient size to accommodate a room for interpretation of the bay and the area, a conference room, office space for interpretive personnel, and restrooms. A courtyard with benches, bike racks, and an outdoor display panel, functioning as a trailhead and assembly area for interpretive talks, will be located next to the building. Equipment for monitoring bay water quality will be located in this center.

Figure 4
Cross Section of Nature Area



Community Garden

The suggestion for including a community garden in the recreation area came from the public early in the planning process, and was supported by people at all later meetings and workshops. The garden will take up about 4 acres of land next to Griffith and Bancroft Avenues, between the north entrance and the Nature Education Center. It will be fenced for security reasons, and will accommodate about ninety 20 x 40 foot individual plots, as well as an area for a tool shed. Also included will be an area for social gatherings, to include benches, a fire pit, and restrooms. A network of hose bibs will be installed to provide adequate water for each of the garden plots.

Trails

A network of trails will loop throughout the state recreation area, to expose visitors to diverse experiences. Public accessibility to the San Francisco Bay shoreline is needed. The trails include hiking, biking, jogging, wheelchair, and emergency vehicle service access throughout the area.

The hiking and biking trails will be separated. At times, they will parallel each other; at other times, they will take separate directions and destinations. All trails will be routed through trailheads, major activity centers, and areas of the shoreline.

The trail system recognizes the need to stretch beyond the recreation area boundaries, and to tie into surrounding trails. There are existing city streets designated as bike routes at the northern part of the recreation area along Ingalls Street, which will be complemented by the state bike routes. At the southern end of Candlestick Point State Recreation Area, the proposal in San Mateo County called Fisherman's Park will create biking and hiking trails, to provide San Mateo County residents with accessibility to shoreline fishing along Highway 101. Candlestick Point's biking and hiking trail system will easily interconnect with the proposed Fisherman's Park, creating further public accessibility and recreation for the San Francisco shoreline.

The specific designs of the trails (paving surface, grades, and locations) will be determined as the site area plans are budgeted and developed.

Hiking Trail

The hiking and walking trail system meanders throughout the recreation area. There will be a special major hiking trail at the Nature Education Center. A nature trail would cause the least amount of damage or disruption to rehabilitation efforts of the natural area, as well as providing public access and awareness of the natural resources. The Nature Education center will be the control point for the start of this nature trail.

Jogging Trail

Joggers and runners will be provided with a separate trail on the fringe of the open grassy area, as well as an exercise course through the Cultural Program Center. Otherwise, they will share the hiking trail, because the two forms of recreation are compatible.

Bicycle Trail

The bike trail will converge at the three activity centers -- the Nature Education Center, the Cultural Program Center, and the Transient Power Boat Docking Area. At either the Cultural Program Center or the Transient Power Boat Docking Area, people will be able to rent bikes and pick up interpretive material. The bike trail ends at the Nature Education Center. There will be bike racks and locks at the Nature Education Center, so people can leave their bikes and walk through the nature area and Nature Education Center.

Group Picnic Areas

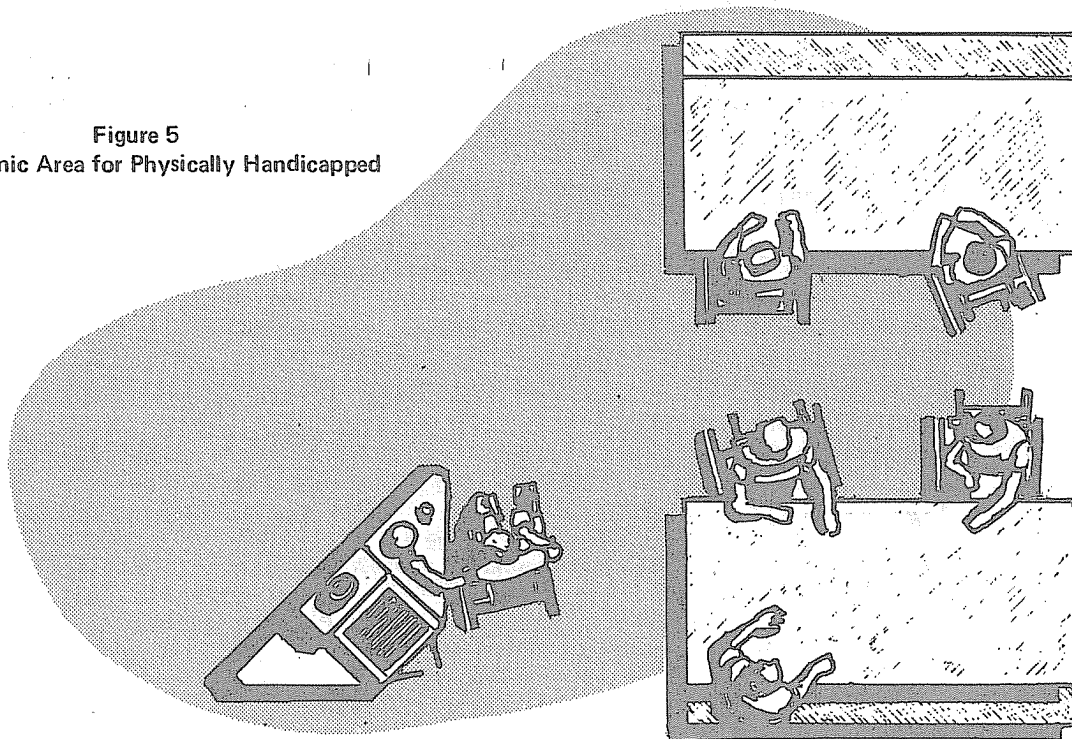
One group picnic area in the SRA is located just inside the north entrance, and will include a group cook shelter, picnic tables, a gathering area with a fire ring, comfort stations, and an open area for informal play. This facility will accommodate 25 people, and will be available to the public by reservation.

A second group picnic area will be designed specifically for use by the physically handicapped. This area will be located near the Cultural Program Center, the swimming beach, the nonpowered boat rental, and one of the parking lots, and will be connected to these facilities by paved walks.

The picnic area will be paved, for ease of use by people in wheelchairs. It will contain tables, stoves, and restrooms, designed for use by the handicapped.

This area will be available to all groups by reservation only, with priority given to groups of handicapped.

Figure 5
Group Picnic Area for Physically Handicapped



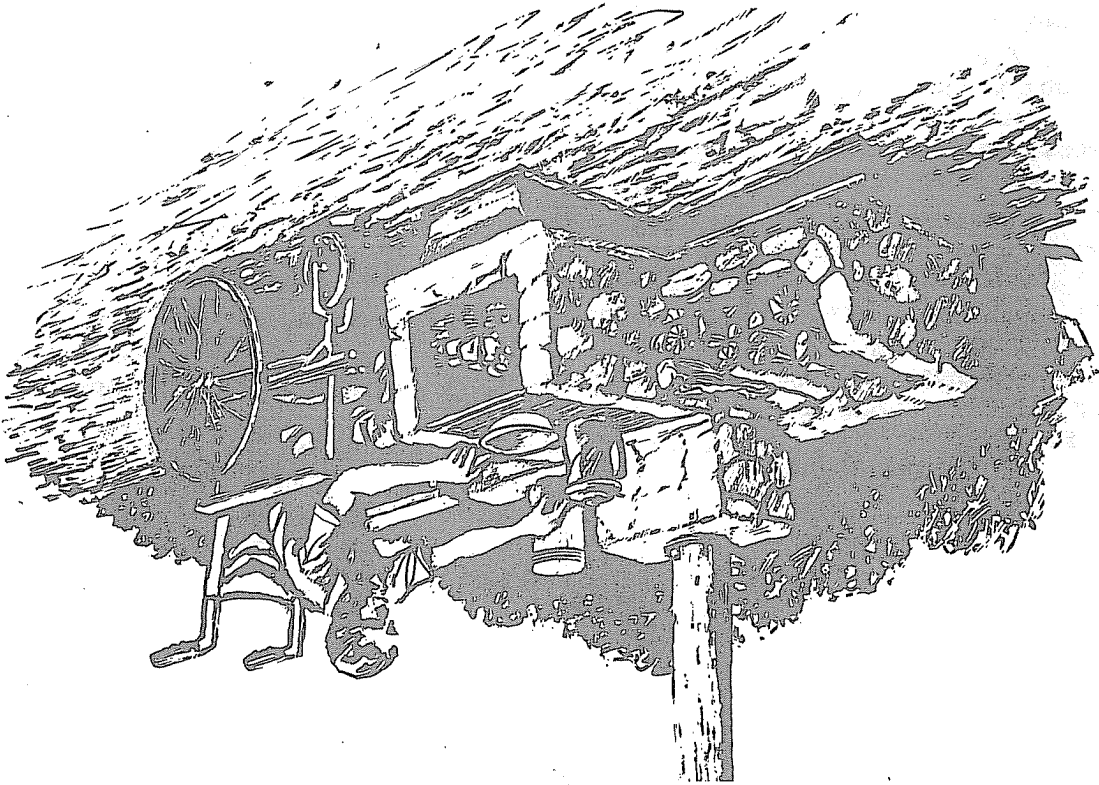
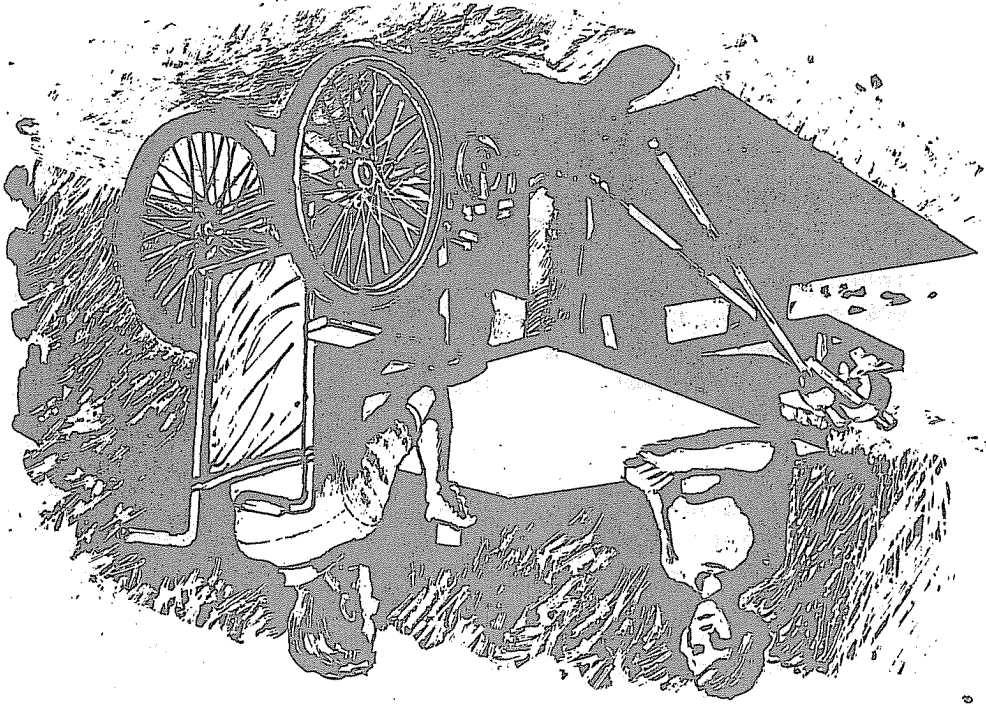


Figure 6
Group Picnic Area for Physically Handicapped

Family Picnicking

Family picnicking was the number one item requested by the people at the public meetings and workshops. In keeping with this request, picnicking will be provided at various locations throughout the recreation area. Tables and stoves will be provided among the grass and trees, with windscreens situated to afford maximum enjoyment and use of the area on windy summer afternoons. Interpretive panels will be located near the larger concentration of picnic tables.

Group Campgrounds

Overnight camping was a vital concern at almost every public meeting and workshop. Two distinctly different needs were expressed: the need for overnight tent or recreation vehicle facilities, and the need for facilities for groups. It was felt such groups need a place near the city where they can enjoy overnight camping.

At the alternative plan workshops in January 1978, the public opted to eliminate individual camping facilities from the plan, and to retain two group camps, with the suggestion that if the staff found it feasible, it could permit RV camping in selected day use parking areas on a one-night-only basis.

Each group camp will contain a group cook shelter, picnic tables for 25 people, a campfire circle, interpretive panels, and approximately 10,000 square feet of tent space. One combination comfort station - shower building, centrally located, will serve both campgrounds. A fishing pier, a fish cleaning station, and a small boat dock will be provided for the two campgrounds.

Campers will park in the day use parking lot, and a service road will be provided for delivering supplies and equipment, and for maintenance of the area.

These campgrounds will help to foster community participation in the SRA; they will be available to the public by reservation only.

Fishing Piers

Another popular request at the public workshops was for several fishing piers. This plan provides for three new piers and renovation of the existing pier. The proposed piers have been located with regard to good fishing sites, as indicated by local fishermen, as well as closeness to popular use areas. The design of the piers will be dealt with during development planning, and will require consultation with wildlife conservation experts.

Rock reefs will be created on the bay bottom near the piers, to improve the local fish habitat. Fish cleaning stations will be provided on or near each of the piers.

Ferry Landing

Public interest in traveling from various waterfront recreation areas resulted in a proposal for a ferry landing at Candlestick Point State Recreation Area. People saw ferry travel as a leisure form of recreation. Conceptually, the ferry landing would concentrate on providing another dimension and exposure of the San Francisco Bay to recreation area visitors. The ferry could potentially stop at waterfront recreation areas in the counties of San Francisco, Marin, Contra Costa, Alameda, Santa Clara, and San Mateo. The ferry landing would include a floating dock, a turning basin canal, a snack-bar, a staging area, and a comfort station. A concessionaire could contract to operate the ferry landing facilities.

There are now no passenger ferries routed through the south bay. In the north bay, there is the Golden Gate Transit, traveling between Marin and San Francisco. The Harbor Bay Tours, Incorporated and the Bay Cruise Red and White Fleets, which provide ferry passenger service out of San Francisco, are also traveling in the San Francisco Bay. A network of south bay terminals and systems has been studied and discussed, but development costs are prohibitive. At this time, there is no indication of a totally interconnected bay ferry system to the south, north, east, or west shorelines.

Since this is a general plan with long-range goals, it is essential to look at this proposal in the light of future planning. As a positive future goal, a ferry landing could provide an important recreational experience not now available in the south San Francisco Bay.

Nonpowered Boat Rental

Many people who attended the department's public meetings and workshops felt that powerboats should not be permitted at Candlestick Point SRA. Water, air, and noise pollution were the primary objections.

The underlying feeling of most of the public's desires for this unit is "naturalness" -- a place where they can get away from the noise and hustle of the city, and can enjoy the San Francisco Bay.

The San Francisco Department of Public Health lists this part of the bay as "of recreation quality," and predicts that bay water quality will improve in years to come.

With the awareness that concentrations of powerboats will seriously pollute the water, this plan calls for restricting powerboats from Candlestick Cove. This will be accomplished by placing bouy markers between the tip of the Candlestick Point pier and the Quiet Area pier.

The nonpowered boat rental facility has been located in Candlestick Cove, to meet the public's desire for quiet enjoyment of the bay in this area. The facility will include a boat rental stand, docks, and a bait and tackle shop.

Sand Beach

Many people who participated in the public involvement process remember Candlestick Point's shoreline area as once being a swimming beach, before the

landfills. They would like to see a return of this beach experience. To fulfill this need, a sand beach is proposed in the cove area of the SRA.

People will be able to stroll, sun, and play on the beach. Swimming in the bay will be permitted on days when the bay water is up to health standards and codes. Although the water quality of the San Francisco Bay has improved greatly since creation of the Bay Conservation and Development Commission (BCDC), there is still some question as to the site's specific water quality conditions for Candlestick Point. Therefore, the San Francisco Bay water will need to be continually tested by the department on a daily basis, as to the water's quality and acceptability for body water contact and recreational usage.

Quiet Area

The southeastern point in the unit is an area of special peace and tranquility. Once there, visitors are surrounded by the San Francisco Bay waters, and distant views of the shipyard and Alameda County. The sounds and visual impact of Highway 101, industries, and residences diminish; only the sounds of bay tidal action and occasional aircraft remain. This unique feature must be seen to be appreciated. The plan recommends retaining this area with its sense of meditation, enhanced by landscaping, mounding, wind screen planting, and grass. To facilitate public access, both hiking and biking trails will loop around the area. Benches, wind-rain shelters, a few scattered picnic tables, and a comfort station will be located to aid in the public's enjoyment and appreciation of this area.

Cultural Program Center

The Cultural Program Center should encompass recognition of human beings as a valuable resource. The theme of the center is emphasis on the positive values, conflicts, and experiences that are shared and built by people to improve their lives. The center is an area where many activities and facilities can contribute to public enjoyment of the landscape. People will gather to generate programs, and to build and instill understanding and pride in themselves and the state recreation area, as well as to visit and participate in the fun.

A variety of activities can happen at the Cultural Program Center, allowing for recreation visitors to be introduced to different experiences.

People at the public involvement workshops encouraged a decent program of volunteers, to work with the rangers in publicizing and programming the state recreation area. This kind of involvement, support, and willing cooperation by people is mandatory to achieve success of the Cultural Program Center.

So the docents and staff can efficiently work together on a continual basis, a compatible indoor program work space will be provided in the center. The building will include the park administration offices, a docent-community work space, meeting rooms, an information counter, interpretive displays, a first-aid station, restrooms, a lounge, and storage and materials space.

An indoor/outdoor design of the structure will add to the flexibility and dimensions of the programs. Consider senior citizens -- a valuable resource,

but often neglected. They need creative and varied programs, including indoor and outdoor recreation spaces that are close. The plan encourages the involvement of senior citizens in sharing their skills, knowledge, and wisdom in developing programs.

Just outside the structure is a plaza -- an outdoor space which can be used for many purposes, and is flexible. The concept is to have this outdoor space be the central area from which visitors can view the bay, the grassy knoll of the amphitheater, the energy demonstrations, the trail systems, concessions, children's play areas, and picnic areas. This panoramic viewing enhances the recreation choices of visitors.

The plaza will have a pond for sailing toy boats, seating areas, landscaping, sun and wind screens, and enough space to encourage arts and crafts demonstrations, displays, vendors, social gatherings, and events.

The energy program demonstrates that energy is in and around all of us. At Candlestick Point State Recreation Area, there is an abundance of energy -- solar, wind, water, land, and human energy. These energy forces can be tapped to demonstrate the conservation and recycling processes, and the uses of natural resources and human potentials in free, non-polluting, safe, and enjoyable ways.

For example, solar demonstration includes solar reflectors, ovens, water heaters, and sun dials. The use of the wind can be shown by windmills, wind generators, ballooning, sail wheel wagons, kites, and music through wind harps, chimes, and bells. Water recycling can be graphically displayed. A water model could demonstrate hydroelectric generation. The land capability can be best demonstrated by the community gardens, which can produce a vegetable harvest and can show the recycling process of composting. People can be shown their own capabilities as these projects are built and operated. All of these energy demonstrations are important and significant to Candlestick Point State Recreation Area, since the unit itself involves recycling of land and shoreline, and reestablishment of marsh and mudflats.

The childrens' play area will be an environmental exploratorium on a child's scale. The concept is to offer children an environment with elements of adventure, surprise, intrigue, and challenge, such as the experiences of climbing boulders, crossing a narrow suspension bridge, or crawling through a cave-like dark passageway around a bend into a large lit area. It will also be possible to have materials available so the children as a team can build simple structures. By exposing children to a variety of environments and challenges, the children's play area can be both fun and interpretive. To compliment the environmental exploratorium, some of the current standard and versatile play equipment can be sensitively incorporated into the design, to allow for the blending of new and old forms of recreation.

A second childrens' play area will be located at the Transient Power Boat Docking Area. This will be much smaller, and will be there primarily for the use of family picnickers.

An exercise course for joggers will run through the Cultural Program Center. It will include panels to explain the exercise routine, then some running distance, until the joggers reach the next panel. The course will be a

complete loop, with an offshoot passing the childrens play area, and connecting with the jogging trail around the open grassy area.

The proposed amphitheater is a small area that will be graded to gently slope down, to create a grassy knoll. Seating and a stage platform will be provided. The stage will be backdropped by a grove of trees. Programs for the amphitheater's use are flexible, and are based on the initiative and cooperation of staff and the general public. Suggested programs include dance, music, and theater.

A snackbar for the sale of food and beverages is a major concession in this area. Often, the convenience of a snackbar helps people to enjoy their recreation day.

The rent-a-bike system is another recreation opportunity and concession. There are two proposed locations for this system: one at the Center, the other at the Transient Power Boat Docking Area. Visitors on the trail system will travel to the nature area, where bike racks will be available for the rent-a-bike system.

Both hiking and biking trail systems will run through and around the Cultural Program Center. Bike racks will be available, so people can leave their bikes to wander among the events and interpretive demonstrations at the center.

The potentials for the Cultural Program Center are vast, and are barely tapped in this document. The creative minds of the ranger staff and docents will stimulate more public involvement participation in programming and development of the center.

Transient Powerboat Docking Area

All previous plans for this area have included marinas, and at first glance, it seems natural that Candlestick Point SRA should include, if not feature, a marina. In fact, this was one of the first items proposed by San Francisco boatowners at the public workshops.

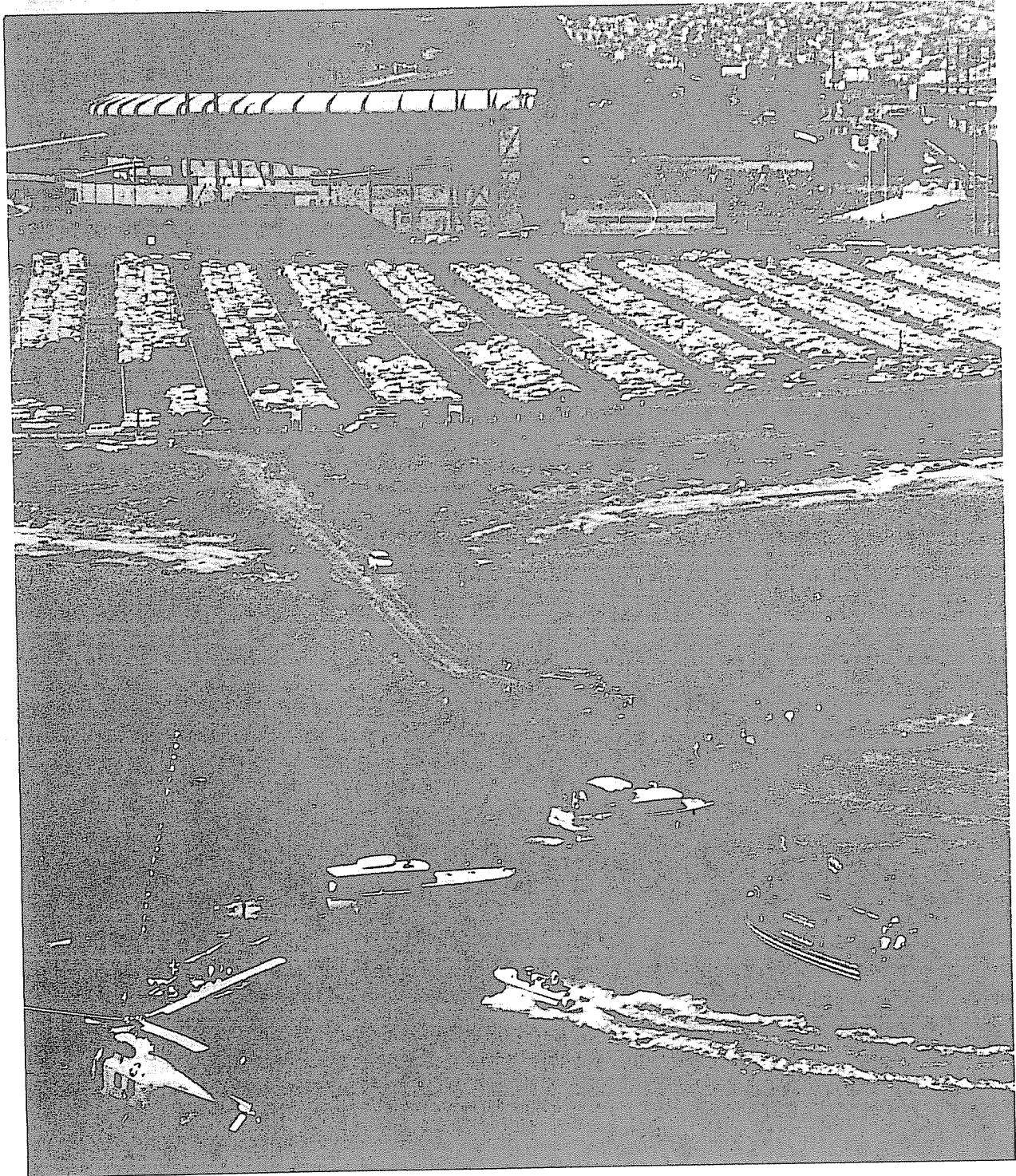
As planning progressed, state planners studied in depth the status of marinas in the San Francisco Bay. They found that all existing marinas have long waiting lists for berths. They also discovered that there are several large marinas proposed for construction in the bay in the next few years.

There seem to be two answers to this concern. One is that the demand will not be met, no matter how many marinas are built; the other is that the statistics are misleading, because many people sign up for berths at more than one marina, and because the proposed marinas, when built, will more than meet the projected needs.

The plan proposes a docking facility that would allow bay area boaters to visit and enjoy the SRA, and that could help alleviate traffic problems on Candlestick Stadium game days by encouraging people to attend games by boat, rather than by car.

The transient powerboat docking facility proposed in this plan will accommodate 100 boats for day use only, and will be constructed and operated by the state. Also proposed, next to the docking facility, is a 3-lane boat launching ramp, and a concession-operated boat service station.

Dredging will be necessary for both the boat docks and the launching ramp. Studies will be needed before construction, to determine the exact areas and depths to be dredged.



A dinner restaurant, a family picnic rest stop, and a parking area will be located on the 15 acres next to the docks.

The restaurant is discussed in the Concession Analysis, page 39.

The family picnic rest stop will include clustered picnic tables and stoves, a children's play area, a rent-a-bike system kiosk, a bird observation overlook, and comfort stations.

The parking lot will serve the boat launching ramp, the restaurant, and the picnic area, and will accomodate 165 vehicles and 85 boat trailers.

Open Grassy Areas

On either side of the Cultural Program Center are two large spaces of open grassy area. One area, to the north, will be like a wide-open grass valley with trees on the edge. This area is compatible with activities such as kite flying, noncompetitive games (new games), and informal ball games. A jogging course will run among the trees and the grassy area.

To the south of the Cultural Program Center is a second large grassy area, bounded by the sandy beach and the bay waters. Along the barren shoreline is the re-establishment of a marsh habitat. The habitat supports a natural coastline in this area. It is an excellent area for strolling, shoreline fishing, and general relaxation.

In both large, open grassy areas, there will be scattered picnicking, comfort stations, hiking and biking trails, landscaping, and windscreening.

Service Area

A 50,000-square-foot paved service area will be located at the intersection of Gilman and Donahue Avenues. This site, centrally located but not intruding on the heart of the SRA, will include vehicle and boat storage buildings, and other facilities necessary for maintenance of the recreation area. A service entrance off Gilman Avenue will provide operations personnel with emergency access to the unit.

Concessions

Local citizens in public workshops recommended that concession facilities be installed, to help visitors enjoy the SRA and to provide jobs in the area. The services most frequently recommended were a boat marina with associated facilities, and restaurants. Other concession/services recommended included food shops, bait and tackle shops, and boat and bicycle rentals.

This analysis deals with concessions mentioned at the public workshops.

In preparing the analysis, the interest of state officials and local citizens in creating jobs and investment opportunities for minorities has been kept in mind.

Marina

A marina for recreation boats would include a boat storage yard, a storage locker, equipment for marina fuel sales, a ship chandlery, and facilities for boat repairs.

There is an immediate need in the bay area for berthing space for recreation boats, and for associated marina facilities. However, it is not economically feasible for an investor to build a marina at this site, because of dredging costs for access to deep water.

Silting sometimes will refill a dredged channel. In some areas of the San Francisco Bay, there is no evidence of siltation; at other marinas, dredging and redredging is a real problem. The question of silting can be resolved only by a study.

A breakwater would also be necessary, to protect boats and the marina from storms. The cost of a breakwater would be prohibitive for a concessionaire.

A marina at Candlestick Point would need protection from the strong, cold winds that blow from spring to fall each year. Discussions with four harbor masters and three other persons with many years of experience on San Francisco Bay waters failed to result in a solution to this wind problem. The winds would be a special problem for sailboaters, who may have difficulty navigating in a dredged channel; sailboaters constitute about half of all bay area boaters.

If the state is prepared to pay about \$500,000 for dredging and a breakwater, and to further obligate itself for dredging if necessary in future years, a marina development by a concessionaire would be economically feasible. The concession contract would have to be for a term of approximately 20 years.

Bait & Tackle Sales and Equipment Rental Store

A bait and tackle shop and boat/bike rental is recommended as one concession. Judging by the business of similar stores at Sunset State Beach and MacKerricher State Park, this business should be successful.

Snack Bar

A building similar to the concession building at Angel Island State Park would seat 24 people. Inside seating is considered necessary, because of the cold winds and fog.

Restaurant

Many suggestions were made for a restaurant because of the SRA's projected capacity of as many as 3,000 visitors at a time. In a recent survey in the general area, it was learned that successful dinner-house restaurants typically achieve sales volume in the \$1.5 to \$2.0-million range annually. At a 3 percent rental rate, these sales typically return revenues to public agencies at \$50,000 or more per year. Recent trends in the restaurant industry favor multiple restaurants (if there is a waiting line at one,

seating may be available at the other). One acre of space is needed for each restaurant.

If there is a need in the future for a restaurant to serve park visitors, and if it is economically feasible, it would be considered.

Recommendations

The most crucial differences between Candlestick Point SRA and other units of the State Park System is that Candlestick Point is within the limits of a major city, easily accessible to the surrounding 4 million people via freeway systems, and easily accessible to adjacent communities via walking or automobile. No other unit of the State Park System is integrated so closely and completely with a major metropolitan area.

Because of these differences, operation and maintenance procedures may need to be different. This plan recommends, therefore, that behavioral scientists familiar with the urban social structure of the bay area be included in decisionmaking aspects of the operation, maintenance, and interpretation programs, as they evolve.

Operations

This plan recommends that the Department of Parks and Recreation, at all levels from headquarters to the state recreation area staff, develop a strong rapport with the surrounding communities. This can be achieved through training in sophisticated forms of publicity and public relations, so they can effectively communicate the unique resources of statewide significance at the state recreation area, and the circulation problems on Candlestick Stadium ballgame days.

The creative interpretation and public involvement programs will also assist visitor security within this first urban state recreation area.

On heavy Candlestick Stadium traffic days, this plan recommends that the contact station off the Hunters Point Expressway be open for entrance only, and that all vehicles exiting during the hours of 11 a.m. to 5 p.m. on game days leave via the Bancroft Avenue/Griffith Street access point and contact station.

Bus Stops

This plan proposes at least two public bus stops. The actual locations of the stops will be determined in the future, with the assistance of the San Francisco Municipal Railway.

Future Acquisitions

The lands between Griffith Street and the railroad tracks, from Yosemite Avenue to Carroll Avenue, should be investigated for possible future acquisition. Because there is now only 6 to 10 feet of state property at the South Basin Canal, any additional width of land would be of primary importance as a buffer for the nature area. The land could be used as part of the nature area; the land location and its lack of wind would make it a prime spot for demonstration ecosystems of California, and for expansion of the community gardens.

Two San Francisco City and County-owned blocks directly north of the SRA boundary, along Thomas Street and Shafter Avenue, should also be investigated

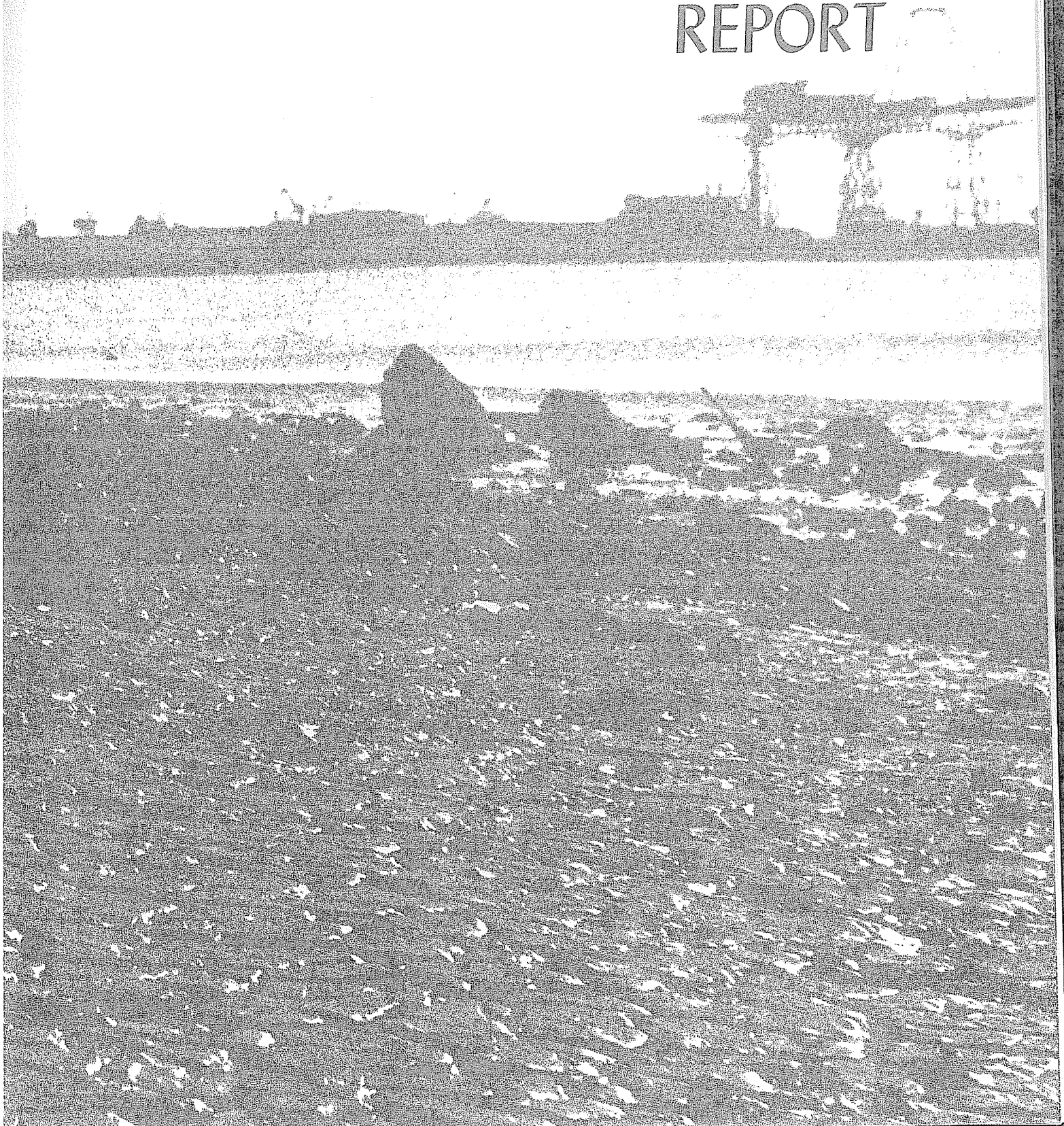
for possible acquisition. Again, expansion of the nature area would be the primary use of this land, thus expanding the educational and interpretive potentials of the Nature Education Center.

Further Investigations

Due to the lack of time, there has not been adequate analysis of specific site conditions at Candlestick Point State Recreation Area. A more detailed analysis can change the land use planning locations, or the general nature of any of the major proposed developments. Therefore, recommendations for further investigations or studies include:

1. Test borings of the land fill
2. Site soils analysis
3. Wind site specific data
4. Water quality site specific data
5. Shoreline water depth surveys
6. Monitoring sediments of fill
7. Understanding of the tidal currents in the cove area, to insure retention of the proposed sand beach.

ENVIRONMENTAL IMPACT REPORT



ENVIRONMENTAL IMPACT REPORT

The Environmental Impact Report (EIR) is divided into three major sections: (1) description of project; (2) description of environmental setting; and (3) environmental impact. The degree of specificity of the latter two chapters is not in detail, due to the general, broad nature of the project description. The General Development Plan for Candlestick Point State Recreation Area is broad in scope; therefore, the EIR is also a broad assessment of the potential impacts.

Description of Project

Location: See Project Description, page 4.

Objectives: See Purpose of Plan, page 3.

Project Description: See General Development Plan, page 17.

Description of Environmental Setting

Existing Environment: See Resource Inventory and Evaluation page 9.

Regional Considerations: See General Development Plan, page 24.

Environmental Impact

An analysis was made of the interactions of the proposed development and the existing environment. In most cases, the changes will have beneficial effects on the environment. Although there will not be significant adverse effects on the environment, several impacts should be discussed.

Short-Term Effects

During construction of the proposed facilities as described in the General Development Plan, there will be several non-significant effects, including increased levels of noise, temporary dust, shoreline disturbance causing turbidity and water pollution, and consumption of energy.

Long-Term Effects

The proposed changes will be primarily beneficial. The environment will be drastically changed, from an unsightly dump unfit for human use to a recreation area. The natural bay ecology should improve. Several effects are described below.

Geologic Effects: The San Francisco Bay is surrounded by several active earthquake faults. The main one is the San Andreas Fault, 11 km (6.8 miles) west of the project. Since the project is on the bay fill, liquefaction is a possibility.

Soil Effects: Subsidence could occur, causing unevenness and cracks in roads and parking lots.

The land and shoreline will be reshaped, and dredging will take place. There will not be a net increase in bay fill. Rock piers will be constructed. A San Francisco Bay Conservation Development Commission (BCDC) permit will be obtained before construction and dredging.

Energy Effects: Visitors' vehicles and maintenance/administration of the SRA will consume energy.

Biotic Effects: No rare and endangered species now exist. Brown pelicans are occasionally observed in flight.

Pollution: Minor water, noise, and air pollution will occur.

Land Use: This SRA is in conformance with local, regional, and state plans.

Transportation and Parking: The SRA will affect stadium parking and traffic congestion in the vicinity. A parking and traffic circulation study has been done, and is presented in the appendix of this report. Both a map and a data sheet are included. (Appendix B.)

The main effect which the SRA will have on the stadium will be elimination of 3,130 parking spaces on SRA land which have been used by stadium users. Currently, the stadium provides 7,830 parking spaces, and depends on 4,220 privately owned parking spaces, plus spaces on State Park System land. As the data summary shows, 1,110 parking spaces are surplus to the needs of capacity stadium use. Therefore, only 2,020 of the 3,130 parking spaces are for capacity stadium crowds. The data summary shows the loss will have an effect when crowds exceed the 55,000 to 58,000 range of attendance.

Capacity stadium crowds for football are approximately 61,000 persons; for baseball, they are approximately 58,000. There are approximately 80 professional baseball games per year, and 10 professional football games per year held at Candlestick Stadium. This represents about 25 percent of total days per year. Normally, baseball crowds do not reach capacity, while football attendance is usually at capacity. The frequency of capacity crowds at baseball games could increase if the team became a pennant contender, or if the American League team in Oakland moves to another city.

If the 2,020 parking places are not replaced, stadium users may be forced to park on streets in nearby residential areas, thereby adding to congestion, and interrupting peace and quiet in these neighborhoods.

The GDP addresses the transportation issue. The SRA will provide approximately 1,250 parking places for SRA visitors. SRA traffic will be heaviest during weekends, when industrial traffic is lowest. However, on those weekends when the stadium is in use, there will be a cumulative effect on traffic congestion in the community. The heaviest use will occur 2 hours before and after games. Depending on where mitigation measures for parking losses occur, there could be less of a traffic

congestion problem on game days than at present, since the 1,250 proposed SRA spaces will be fewer than the existing 3,130 spaces which now exist on SRA lands.

Cultural: There are no archeological or historical sites on the property. All current buildings could be demolished without causing significant environmental impact.

Public Service and Human Community: The SRA will be maintained and administered by the Department of Parks and Recreation, with community involvement and cooperation. Utilities and sanitation are available. The department is expecting additional litter problems caused by prevailing westerly winds that will blow litter in from Candlestick Stadium and Highway 101.

Any Significant Environmental Effects That Cannot
Be Avoided If the Proposal Is Implemented:

All of the effects outlined in the above section are environmental effects that cannot be avoided if the project is implemented as proposed. Most of these impacts could be reduced through mitigation, but it is highly unlikely that any of the impacts could be totally eliminated.

The department feels that the benefits to be gained from the proposed project outweigh the minor environmental impacts that would result from implementation of the proposed plan for development.

Mitigation Measures Possible to Minimize the Significant Effects

Of all the significant effects mentioned, the most controversial relates to elimination of 2,020 needed parking spaces for Candlestick Stadium by the project. There are several possible methods that could solve the parking loss.

Use of SRA parking: Approximately 1,250 parking spaces will be built for SRA visitors. Some of the spaces may be available for stadium users.

An Executive Park Industrial Complex: This may have 1,700 parking spaces available on weekends and evenings for stadium use. This site is between Highway 101 and the stadium. Professional football games occur on weekends, and occasionally on Monday evenings.

Land Exchange Proposal: The city has proposed a land exchange with the state. Any proposals of this kind must be studied before a tradeoff is made.

Increased Public Transportation: This would substantially reduce the need for parking spaces.

Shuttle Systems: Visitors could park in other locations, and could be shuttled to the stadium.

Increased Parking: Existing stadium and private parking areas could be multi-levelled and could include parking on turfed areas..

The proposed Hunter's Point Expressway extension (Route 230) should reduce traffic congestion on streets and in neighborhoods near the SRA, and should improve access.

Experienced SRA users may avoid travelling to and from the unit during pre and post-stadium use periods.

Alternatives to the Proposed Action

No Development: This alternative would mean that the current situation would continue. A few people would continue to fish; parking for stadium use would continue, but the area would remain unsightly, unhealthy, and hazardous.

Greater Development: This plan would offer many recreation opportunities such as found in an urban city park.

Less Development: Importance would be placed on open space and restoring the area to a natural condition.

Other Alternative Actions: There are a myriad of project alternatives resulting from combinations of possible individual actions.

The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Implementation of the proposed General Development Plan and Resource Management Plan would protect and improve the unit's resources, and would increase the numbers of facilities for the public. The public should be able to enjoy the area for many years.

Any Significant Irreversible Environmental Changes That Would Be Involved in the Proposed Action Should It be Implemented

The following irreversible environmental changes are anticipated:

- The commitment of non-renewable resources such as oil, gasoline, and gravel, to construct roads, parking areas, and other park facilities.

The Growth-Inducing Impacts of the Proposed Action

There will be some indirect growth-inducing impacts. It is possible that the local economy near the SRA might be somewhat stimulated by the influx of visitors, and by initial construction activities involved in building the proposed new facilities. Local residents may be hired to work in the SRA and the concessions.

Organizations and Persons Consulted

For a list of organizations and persons consulted in preparing the Candlestick Point State Recreation Area General Development Plan, Resource Management Plan, and Environmental Impact Report, see the Acknowledgments on page 61.